

# MAGNETIC RESONANCE IMAGING WITH NESTED GRADIENT PULSES

## Abstract of Disclosure

Disclosed herein is a system and method for decreasing gradient field pulse sequence duration and reducing peripheral nerve stimulation with known gradient pulse areas for a magnetic resonance imaging system. The method comprising: receiving a first desired area corresponding to a first pulse; obtaining a second desired area corresponding to a second pulse; selecting the first pulse as a nested pulse if the first desired area is smaller than the second desired area, and establishing the second pulse as a nesting pulse, otherwise selecting the second pulse as the nested pulse and establishing the first pulse as the nesting pulse. The method also includes: determining an amplitude and pulse duration for the nested pulse and ascertaining an amplitude and pulse duration for the nesting pulse. Finally, the method includes arranging a plurality of gradient field pulse sequences to include the nested pulse and the nesting pulse.

[illegible]